

BCV08-A1AM03N600

VarioLine

WIRE DRAW ENCODERS

SICK
Sensor Intelligence.

Ordering information

Type	Part no.
BCV08-A1AM03N600	1133449

Included in delivery: MRA-V080-103D3 (1), AFM60E-S1AA004096 (1)

Other models and accessories → www.sick.com/VarioLine



Detailed technical data

Performance

Measurement range	0 m ... 3 m
Encoder	Absolute encoders
Resolution (wire draw + encoder)	0.06 mm ^{1) 2)}
Repeatability	≤ 0.3 mm ³⁾
Linearity	≤ ± 2 mm ³⁾
Hysteresis	≤ 1.2 mm ³⁾

¹⁾ The values shown have been rounded.

²⁾ Example calculation based on the BCV08 with PROFINET: 230 mm (wire draw length per revolution - see Mechanical data): 262,144 (number of steps per revolution) = 0.001 mm (resolution of wire draw + encoder combination).

³⁾ Value applies to wire draw mechanism.

Interfaces

Communication interface	SSI
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Electrical data

Connection type	Male connector, M23, 12-pin, radial
Supply voltage	4.5 V DC ... 32 V DC
Power consumption	≤ 0.7 W (without load)
MTTFd: mean time to dangerous failure	250 years (EN ISO 13849-1) ¹⁾

¹⁾ This product is a standard product and does not constitute a safety component as defined in the Machinery Directive. Calculation based on nominal load of components, average ambient temperature 40 °C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

Mechanical data

Weight	0.9 kg
Measuring wire material	Stainless steel 1.4401
Measuring wire diameter	0.81 mm
Housing material, wire draw mechanism	Stainless steel 1.4301
Spring return force	8 N ... 10 N ¹⁾

¹⁾ These values were measured at an ambient temperature of 25 °C. There may be variations at other temperatures.

²⁾ Average values, which depend on the application.

³⁾ The service life depends on the type of load. This is influenced by environmental conditions, the installation location, the measuring range in use, the traversing speed, and acceleration.

Length of wire pulled out per revolution	230 mm
Life of wire draw mechanism	Typ. 1,000,000 cycles ^{2) 3)}
Actual wire draw length	3.2 m
Operating speed	4 m/s
Mounted encoder	AFM60 SSI, AFM60E-S1AA004096, 1037438
Mounted mechanic	MRA-V080-103D3, 5347779

¹⁾ These values were measured at an ambient temperature of 25 °C. There may be variations at other temperatures.

²⁾ Average values, which depend on the application.

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Ambient data

EMC	According to EN 61000-6-2 and EN 61000-6-3 ¹⁾
Enclosure rating	IP30, mounted mechanic IP67, Encoder (IEC 60529) ²⁾
Operating temperature range	-30 °C ... +70 °C

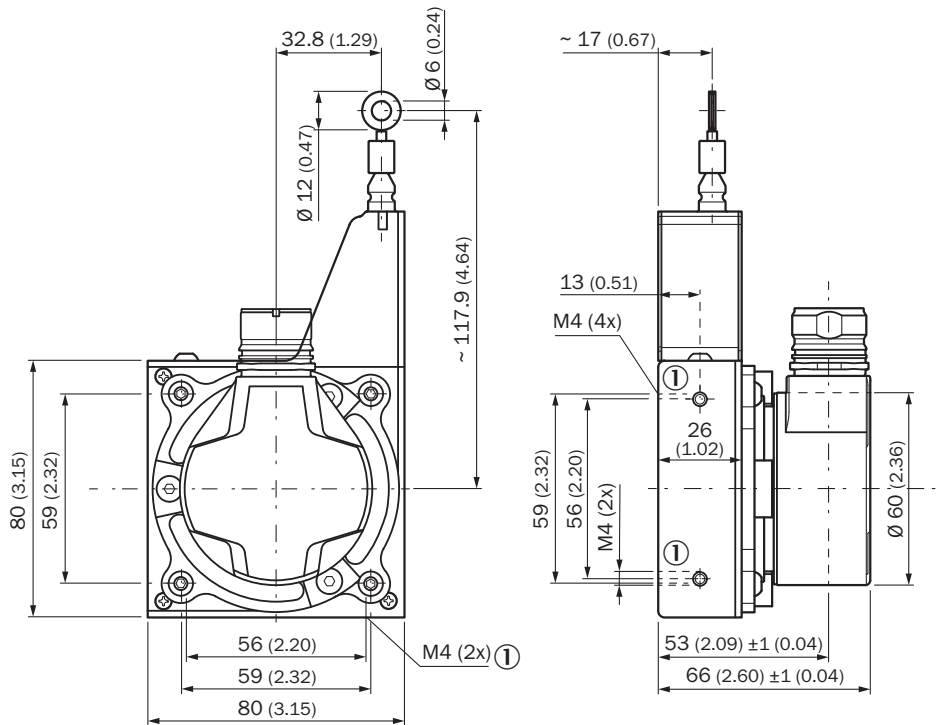
¹⁾ EMC according to the standards quoted is achieved if shielded cables are used.

²⁾ With mating connector fitted.

Classifications

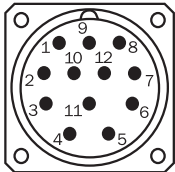
ECLASS 5.0	27270590
ECLASS 5.1.4	27270590
ECLASS 6.0	27270590
ECLASS 6.2	27270590
ECLASS 7.0	27270590
ECLASS 8.0	27270590
ECLASS 8.1	27270590
ECLASS 9.0	27270590
ECLASS 10.0	27270613
ECLASS 11.0	27270503
ECLASS 12.0	27270503
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
ETIM 8.0	EC001486
UNSPSC 16.0901	41112113

Dimensional drawing (Dimensions in mm (inch))



PIN assignment

M23 male connector, 12-pin, SSI/Gray

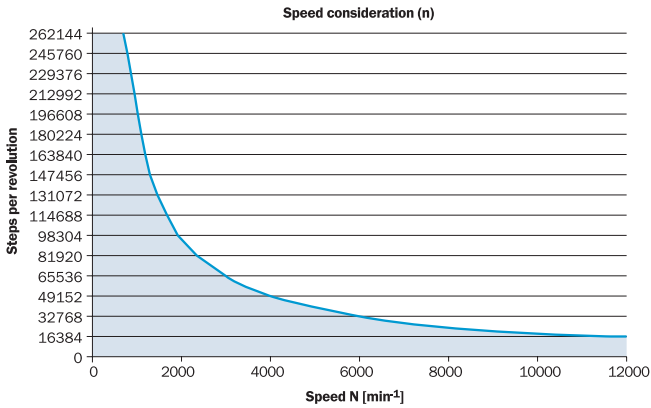


View of M23 male device connector on encoder

PIN	Signal	Explanation
1	GND	Ground connection
2	Data +	Interface signals
3	Clock +	Interface signals
4	N.C.	Not assigned
5	N.C.	Not assigned
6	N.C.	Not assigned
7	N.C.	Not assigned
8	U _S	Operating voltage
9	SET	Electronic adjustment
10	Data -	Interface signals
11	Clock -	Interface signals
12	V/R	Sequence in direction of rotation

PIN	Signal	Explanation
	Screen	Screen connected to housing on encoder side. Connected to ground on control side.

Diagrams









The maximum speed is also dependent on the shaft type.

Recommended accessories

Other models and accessories → www.sick.com/VarioLine

	Brief description	Type	Part no.
Plug connectors and cables			
	<ul style="list-style-type: none"> Connection type head A: Female connector, M23, 12-pin, straight Signal type: HIPERFACE[®], SSI, Incremental Description: HIPERFACE[®], SSI, Incremental, shielded, Head A: female connector, M23, 12-pin, straight, shielded, for cable diameter 5.5 mm ... 10.5 mm Head B: Operating temperature: -20 °C ... +130 °C Connection systems: Solder connection 	DOS-2312-G	6027538
	<ul style="list-style-type: none"> Connection type head A: Female connector, M23, 12-pin, straight Signal type: HIPERFACE[®], SSI, Incremental Description: HIPERFACE[®], SSI, Incremental, shielded, Head A: female connector, M23, 12-pin, straight, shielded, for cable diameter 5.5 mm ... 10.5 mm Head B: - Operating temperature: -40 °C ... +125 °C Connection systems: Solder connection 	DOS-2312-G02	2077057
	<ul style="list-style-type: none"> Connection type head A: Female connector, M23, 12-pin, angled Signal type: HIPERFACE[®], SSI, Incremental Description: HIPERFACE[®], SSI, Incremental, shielded, Head A: female connector, M23, 12-pin, angled, shielded, for cable diameter 4.2 mm ... 6.6 mm Head B: - Operating temperature: -20 °C ... +130 °C Connection systems: Solder connection 	DOS-2312-W01	2072580
Others			
	<ul style="list-style-type: none"> Connection type head A: Female connector, M23, 12-pin, straight Connection type head B: Flying leads Signal type: SSI Cable: 0.5 m, 8-wire, PUR, halogen-free Description: SSI, shielded 	DOL-2308-G0M5AA6	2048595

	Brief description	Type	Part no.
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M23, 12-pin, straight • Connection type head B: Flying leads • Signal type: SSI • Cable: 3 m, 8-wire, PUR, halogen-free • Description: SSI, shielded 	DOL-2308-G03MAA6	2048597
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M23, 12-pin, straight • Connection type head B: Flying leads • Signal type: SSI • Cable: 5 m, 8-wire, PUR, halogen-free • Description: SSI, shielded 	DOL-2308-G05MAA6	2048598
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M23, 12-pin, straight • Connection type head B: Flying leads • Signal type: SSI • Cable: 1.5 m, 8-wire, PUR, halogen-free • Description: SSI, shielded 	DOL-2308-G1M5AA6	2048596
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M23, 12-pin, straight • Connection type head B: Flying leads • Signal type: SSI • Cable: 10 m, 8-wire, PUR, halogen-free • Description: SSI, shielded 	DOL-2308-G10MAA6	2048599
	<ul style="list-style-type: none"> • Connection type head A: Flying leads • Connection type head B: Flying leads • Signal type: SSI, Incremental, HIPERFACE® • Cable: 8-wire, PUR, halogen-free • Description: SSI, Incremental, HIPERFACE®, shielded • Items supplied: By the meter 	LTG-2308-MWENC	6027529
	<ul style="list-style-type: none"> • Connection type head A: Flying leads • Connection type head B: Flying leads • Signal type: SSI, TTL, HTL, Incremental • Cable: 12-wire, UV and saltwater-resistant, PUR, halogen-free • Description: SSI, TTL, HTL, Incremental, shielded, Head A: cable Head B: cable Cable: suitable for drag chain, PUR, halogen-free, shielded, UV and saltwater resistant, 4 x 2 x 0.25 mm² + 2 x 0.5 mm² + 2 x 0.14 mm², Ø 7.8 mm • Items supplied: By the meter 	LTG-2612-MW	6028516

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